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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/842,573	04/25/2001	Naoto Arai	10873.706US01	7468	
75	590 07/03/2003				
MERCHANT	& GOULD P.C.	EXAMINER			
P.O. Box 2903 Minneapolis, M	IN 55402-0903		WILLS, MONIQUE M		
			ART UNIT	PAPER NUMBER	
			1746		
			DATE MAILED: 07/03/2003	5	

Please find below and/or attached an Office communication concerning this application or proceeding.

-q			——— \ \ <sub>1</sub>	A 11 (/ )				
		Application No.		Applicant(s)				
	Office Action Summary	09/842,573		ARAI ET AL.	-			
	Onice Action Summary	Examin r		Art Unit				
	The MAILING DATE of this assessmination and	Wills M Monique	- h A wish sho a	1746	Idvana			
The MAILING DATE of this communication appears on the cover shelf to with the correspondence address Period for Reply								
THE   - Exte after - If the - If NC - Failu - Any	ORTENED STATUTORY PERIOD FOR REPLY MAILING DATE OF THIS COMMUNICATION.  SIX (6) MONTHS from the mailing date of this communication. It period for reply specified above is less than thirty (30) days, a reply opened for reply is specified above, the maximum statutory period were to reply within the set or extended period for reply will, by statute, reply received by the Office later than three months after the mailing and patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, howe within the statutory min vill apply and will expire cause the application to	ever, may a reply be tim imum of thirty (30) days SIX (6) MONTHS from b become ABANDONEI	nely filed s will be considered timel the mailing date of this c D (35 U.S.C. § 133).				
1)	Responsive to communication(s) filed on 25 A	April 2001						
2a)□								
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.								
Dispositi	on of Claims							
4)⊠	Claim(s) <u>1-18</u> is/are pending in the application							
	4a) Of the above claim(s) is/are withdrawn from consideration.							
5)	Claim(s) is/are allowed.							
6)⊠	Claim(s) <u>1-6, 8-14 &amp; 16-18</u> is/are rejected.							
7)⊠	Claim(s) 7 and 15 is/are objected to.							
•	Claim(s) are subject to restriction and/or	r election require	ment.					
	on Papers							
•	The specification is objected to by the Examiner		7	<b>-</b>				
10)🖂	The drawing(s) filed on 25 April 2001 is/are: a)							
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.								
' ' '	• •			ived by the Examin	er.			
If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.								
,	under 35 U.S.C. §§ 119 and 120							
-		nriority under 34	SUSC 8 110/a	)-(d) or (f)				
•	13)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)⊠ All b)□ Some * c)□ None of:							
a)ı	<u> </u>	s have been rece	ived					
	<ul> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> </ul>							
	3. Copies of the certified copies of the priority documents have been received in this National Stage							
* 5	application from the International But See the attached detailed Office action for a list			d.				
14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).								
a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.								
Attachmen		, ,	30					
2) Notic	ce of References Cited (PTO-892) te of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO-1449) Paper No(s)	4)		(PTO-413) Paper No Patent Application (PT				

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## **DETAILED ACTION**

# **Priority**

Japanese foreign priority document(s) 2000-131760, filed April 28, 2000 and submitted under 35 U.S.C. 119(a)-(d), has/have been received and placed of record in the file.

#### Information Disclosure Statement

The information disclosure statement(s) filed August 7, 2001 has/have been received and complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609.

# Allowable Subject Matter

Claims 7 & 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The instant claims would be allowable over the prior art of record, because the prior art is silent to a battery of similar electrochemistry having an energy density of 7.5 to 8.5 Wh/kg.

The prior art, such as Shimakawa U.S. Patent 5,663,008, teaches a battery assembly having the same electrode materials, working pressure, number of cells, electrical connections and environmental temperature as the subject invention.



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However, the reference has energy densities of the range 67 to 63 Wh/kg, not 7.5 to 8.5 Wh/kg as necessitated by the subject invention. It is unclear as to how batteries of the same electrochemistry and physical environment have such dramatically different energy densities. The specification gives no guidance as to how the instant energy densities were obtained.

# Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-14 & 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimakawa et al. U.S. Patent 5,663,008.

Shimakawa teaches a battery assembly that can be used as a mobile power source for an electric vehicle (col. 1, lines 50-55, claims 10 & 18). The battery assembly comprises a module battery including an accumulation of approximately 5 to 40 cells, or two or more module batteries, that is, accumulation of approximately 10 to 300 cells, is used, and hence, it is necessary to provide means for decreasing the variation in the battery performances such as battery capacity among the plurality of

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cells, improving the battery performances such as energy density. See column 2, lines 50-60 (addresses claims 1, 5-6, 11 & 13-14). The energy density of the battery assembly ranges from 67 to 63 Wh/kg (tables 1-4). The cells in the battery module are electrically connected (col. 4, lines 20-40, claims 4 & 12). Furthermore, the working pressure of the safety valve is set between 0.2 MPa and 0.8 MPa (col. 9, lines 15-25, claims 3 & 11) with an environmental temperature of 20°C (col. 5, lines 65-68, claims 3 & 11). Battery assemblies comprising the same working pressure, number of cells, electrical connections and environmental temperature, will inherently have a charge equalization of 0.015g or less per Ah (claim 2), power density of 500 to 600 W/kg (claims 8 & 16), battery capacity of 6.5 to 7.2 ah/cell (claims 9 & 17) and electrolyte of 1.3 to 8.0 g/Ah capacity.

## Conclusion.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ovshinsky et al. U.S. Patent 5,879,831.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (703) 305-0073. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 703-308-4333.

The unofficial fax number is (703) 305-3599. The Official fax number for non-final amendments is 703-872-9310. The Official fax number for after final amendments is 703-872-9311.

Mw

06/27/03

RANDY GULAKOWSKI SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 1700